

## CLAIMS

**Please amend the claims as follows:**

Claims 1-4 (cancelled)

Claim 5. (currently amended) ~~The method of claim 1,~~ A method for manipulating the transportation of packets between a source network and IP based destination network, the method comprising the steps of:

- (a) receiving a packet from a source, the received packet being intended for a destination;
- (b) parsing the received packet to identify the received packet as a packet that can be manipulated;
- (c) updating a cross-reference table, the cross-reference table enabling the reconstruction of a connection to the destination;
- (d) manipulating the received packet by sending the received packet to a manipulation module;
- (e) reconstructing the connection to the destination for the manipulated packet using the cross-reference table; and
- (f) transferring the manipulated packet to the destination,

wherein the received packet and the manipulated packet are transferred over network based tunnels, wherein the step of updating the cross-reference table further comprises using a source port number of the received packet coming from the manipulation module.

Claim 6. (currently amended) ~~The method of claim 1~~ A method for manipulating the transportation of packets between a source network and IP based destination network, the method comprising the steps of:

- (a) receiving a packet from a source, the received packet being intended for a destination;

(b) parsing the received packet to identify the received packet as a packet that can be manipulated;

(c) updating a cross-reference table, the cross-reference table enabling the reconstruction of a connection to the destination;

(d) manipulating the received packet by sending the received packet to a manipulation module;

(e) reconstructing the connection to the destination for the manipulated packet using the cross-reference table; and

(f) transferring the manipulated packet to the destination,  
wherein the received packet and the manipulated packet are transferred over network based tunnels, wherein the step of updating the cross-reference table further comprises using the IP address of the manipulation module.

Claim 7. (currently amended) ~~The method of claim 1~~ A method for manipulating the transportation of packets between a source network and IP based destination network, the method comprising the steps of:

(a) receiving a packet from a source, the received packet being intended for a destination;

(b) parsing the received packet to identify the received packet as a packet that can be manipulated;

(c) updating a cross-reference table, the cross-reference table enabling the reconstruction of a connection to the destination;

(d) manipulating the received packet by sending the received packet to a manipulation module;

(e) reconstructing the connection to the destination for the manipulated packet using the cross-reference table; and

(f) transferring the manipulated packet to the destination,  
wherein the received packet and the manipulated packet are transferred over network based tunnels, wherein the step of updating the cross-reference table further comprises using the IP address of the destination.

Claim 8. (currently amended) ~~The method of claim 1~~ A method for manipulating the transportation of packets between a source network and IP based destination network, the method comprising the steps of:

(a) receiving a packet from a source, the received packet being intended for a destination;  
(b) parsing the received packet to identify the received packet as a packet that can be manipulated;

(c) updating a cross-reference table, the cross-reference table enabling the reconstruction of a connection to the destination;

(d) manipulating the received packet by sending the received packet to a manipulation module;

(e) reconstructing the connection to the destination for the manipulated packet using the cross-reference table; and

(f) transferring the manipulated packet to the destination,  
wherein the received packet and the manipulated packet are transferred over network based tunnels, wherein the step of updating the cross-reference table further comprises using the IP address of the source.

Claims 9-17. (cancelled)

Claim 18. (currently amended) ~~The method of claim 11~~A method for manipulating the transportation of original packets transported between at least one remote client via an access network and at least one IP based private data network, wherein the original packets are encapsulated in network based tunnel packets, and wherein the manipulation is done at the access network service provider's premises, the method comprising the steps of:

transferring, at the access network service provider's premises, the transportation between the at least one remote client and the at least one IP based private data network via a manipulation system;

parsing a received network based tunnel packet to determine if the received network based tunnel packet can be manipulated;

forwarding the received network based tunnel packet, as is, towards a destination if the received network based tunnel packet cannot be manipulated;

if the received network based tunnel packet can be manipulated:

retrieving the original packet out of the network based tunnel packet;

updating a cross-reference table with parameters that associate the original packet with the received network based tunnel packet, the cross-reference table enabling the reconstruction of a manipulated network based tunnel packet that will be transferred to the destination after the manipulation of the received original packet;

manipulating the original received packet;

reconstructing the manipulated network based tunnel packet with the manipulated original received packet; and

transferring the manipulated network based tunnel packet to the destination over network based tunnels,

wherein the step of updating the cross-reference table further comprises using parameters, wherein the parameters that are used for comprise a source port number of packets coming from a manipulation module.

Claim 19. (currently amended) ~~The method of claim 11~~A method for manipulating the transportation of original packets transported between at least one remote client via an access network and at least one IP based private data network, wherein the original packets are encapsulated in network based tunnel packets, and wherein the manipulation is done at the access network service provider's premises, the method comprising the steps of:

transferring, at the access network service provider's premises, the transportation between the at least one remote client and the at least one IP based private data network via a manipulation system;

parsing a received network based tunnel packet to determine if the received network based tunnel packet can be manipulated;

forwarding the received network based tunnel packet, as is, towards a destination if the received network based tunnel packet cannot be manipulated;

if the received network based tunnel packet can be manipulated:

retrieving the original packet out of the network based tunnel packet;

updating a cross-reference table with parameters that associate the original packet with the received network based tunnel packet, the cross-reference table enabling the reconstruction of a manipulated network based tunnel packet that will be transferred to the destination after the manipulation of the received original packet;

manipulating the original received packet;

reconstructing the manipulated network based tunnel packet with the manipulated original received packet; and

transferring the manipulated network based tunnel packet to the destination over network based tunnels,

wherein the step of updating the cross-reference table further comprises using parameters, wherein the parameters that are used for updating the cross-reference table comprise the IP address of a manipulation module.

Claim 20. (currently amended) ~~The method of claim 11~~A method for manipulating the transportation of original packets transported between at least one remote client via an access network and at least one IP based private data network, wherein the original packets are encapsulated in network based tunnel packets, and wherein the manipulation is done at the access network service provider's premises, the method comprising the steps of:

transferring, at the access network service provider's premises, the transportation between the at least one remote client and the at least one IP based private data network via a manipulation system;

parsing a received network based tunnel packet to determine if the received network based tunnel packet can be manipulated;

forwarding the received network based tunnel packet, as is, towards a destination if the received network based tunnel packet cannot be manipulated;

if the received network based tunnel packet can be manipulated:

retrieving the original packet out of the network based tunnel packet;

updating a cross-reference table with parameters that associate the original packet with the received network based tunnel packet, the cross-reference table enabling the

reconstruction of a manipulated network based tunnel packet that will be transferred to the destination after the manipulation of the received original packet;

manipulating the original received packet;

reconstructing the manipulated network based tunnel packet with the manipulated original received packet; and

transferring the manipulated network based tunnel packet to the destination over network based tunnels,

wherein the step of updating the cross-reference table further comprises using parameters, wherein the parameters that are used for updating the cross-reference table further comprise the IP address of the at least one IP based private data network.

Claim 21. (currently amended) ~~The method of claim 11A~~ A method for manipulating the transportation of original packets transported between at least one remote client via an access network and at least one IP based private data network, wherein the original packets are encapsulated in network based tunnel packets, and wherein the manipulation is done at the access network service provider's premises, the method comprising the steps of:

transferring, at the access network service provider's premises, the transportation between the at least one remote client and the at least one IP based private data network via a manipulation system;

parsing a received network based tunnel packet to determine if the received network based tunnel packet can be manipulated;

forwarding the received network based tunnel packet, as is, towards a destination if the received network based tunnel packet cannot be manipulated;

if the received network based tunnel packet can be manipulated;

retrieving the original packet out of the network based tunnel packet;

updating a cross-reference table with parameters that associate the original packet with the received network based tunnel packet, the cross-reference table enabling the reconstruction of a manipulated network based tunnel packet that will be transferred to the destination after the manipulation of the received original packet;

manipulating the original received packet;

reconstructing the manipulated network based tunnel packet with the manipulated original received packet; and

transferring the manipulated network based tunnel packet to the destination over network based tunnels,

wherein the step of updating the cross-reference table further comprises using parameters, wherein the parameters that are used for updating the cross-reference table further comprise the IP address of the at least one remote client.

Claims 22-26. (cancelled)

Claim 27. (currently amended) ~~The system of claim 23~~ A system for manipulating the transportation of original packets transported between at least one remote client via an access network and at least one IP based private data network, wherein the original packets are encapsulated in network based tunnel packets, and wherein the system is at the access network service provider's premises, the system comprising:

an access gateway interface module for receiving network based tunnel packets from, and sending network based tunnel packets toward the at least one remote client via an access gateway;



a border gateway interface module for receiving network based tunnel packets from, and sending network based tunnel packets toward the at least one IP based private data network via a border gateway;

a manipulation module for manipulating the original packets that are encapsulated in the network based tunnel packets;

a manipulation equipment interface module, interfacing to the access gateway interface module and the border gateway interface module and the manipulation module and that is operable to receive network based tunnel packets from, and send network based tunnel packets to the access gateway interface and the border gateway interface modules;

the manipulation equipment interface being further operable to manipulate received network based tunnel packets by retrieving an original packet, sending the retrieved original packet to the manipulation module, receiving a manipulated packet that is the result of the manipulation of the original packet, reconstructing the network based tunnel packet by installing the manipulated original packet and forwarding the reconstructed network based tunnel packet to either the access gateway interface or the border gateway interface,

wherein the access gateway interface module maintains a table of all destinations that are users of the manipulation equipment.